

Claims

1. A plant protein fraction which is derived from
representatives of the Papaveraceae family and
which possesses phospholipase D activity,
characterized in that
 - a) it consists of two protein subfractions A and B, and
 - b) it can be activated by Zn^{2+} ions, and also
 - c) the subfractions A and/or B possess carbohydrate moieties,
and with the protein subfraction A only possessing hydrolysis activity.
2. The protein fraction as claimed in claim 1,
characterized in that it is derived from Papaver
sommiferum and very particularly preferably from
developing seedlings and/or endosperms.
3. The protein fraction as claimed in claim 1 or 2,
characterized in that the subfraction A possesses
a molecular mass of between 116 and 118 kDa, an
isoelectric point, pI, of between 8.5 and 8.9 and
a hydrolytic activity optimum at pH values of
between 7.8 and 8.2, and the subfraction B
possesses a molecular mass of between 112 and
115 kDa, an isoelectric point, pI, of between 6.5
and 6.9 and a hydrolytic activity optimum at pH
values of between 5.0 and 6.0.
4. The protein fraction as claimed in any one of
claims 1 to 3, characterized in that the
subfraction A has a molecular mass of 116.4 kDa,
an isoelectric point, pI, of 8.7 and a hydrolytic
activity optimum at pH 8.0.
5. The protein fraction as claimed in any one of
claims 1 to 4, characterized in that the
subfraction B has a molecular mass of 114.1 kDa,

an isoelectric point, pI, of 6.7 and a hydrolytic activity optimum at pH 5.5.

- 5 6. The protein fraction as claimed in any one of claims 1 to 5, characterized in that the subfraction B possesses an activatability optimum at Zn^{2+} ion concentrations of between 1.0 and 10 mM and, particularly preferably, at 5 mM.
- 10 7. The protein fraction as claimed in any one of claims 1 to 6, characterized in that the subfractions A and B are isoenzymes.
- 15 8. The protein fraction as claimed in any one of claims 1 to 7, characterized in that its transphosphatidylating activity is more strongly pronounced than its hydrolysis activity.
- 20 9. The use of the protein fraction as claimed in any one of claims 1 to 8 for hydrolyzing and/or transphosphatidylating phospholipids and/or their lyso forms.
- 25 10. The use as claimed in claim 9 for synthesizing phosphatidylcholine, phosphatidylethanolamine, phosphatidylglycerol, phosphatidylinositol, phosphatidic acid and phosphatidylserine and their lyso forms.
- 30 11. The use as claimed in claim 9 or 10 in the form of a hydrolysis of phosphatidylinositol and/or a headgroup exchange performed on phosphatidylinositol.